

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

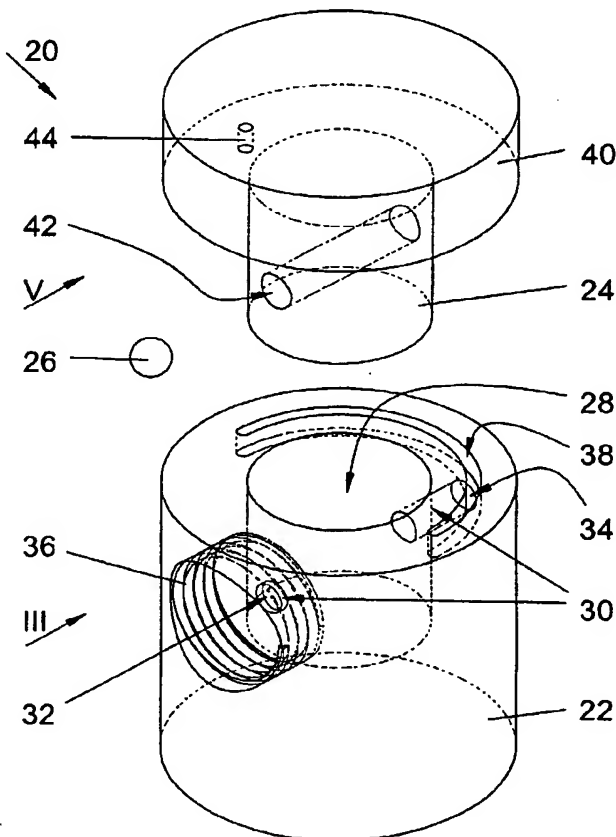
PCT

(10) International Publication Number
WO 03/060435 A1

- (51) International Patent Classification⁷: G01F 11/16, 11/02
- (74) Agent: GERNTHOLTZ, Richard, Otto, Paul; Dr Gerntholtz Inc., P.O. Box 8, 8000 Cape Town (ZA).
- (21) International Application Number: PCT/IB03/00026
- (22) International Filing Date: 9 January 2003 (09.01.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2002/0328 15 January 2002 (15.01.2002) ZA
- (71) Applicants and
(72) Inventors: WESSELS, Jacobus, Adriaan [ZA/ZA]; 32 Camdeboo Street, 7530 Loevenstein (ZA). VERMEULEN, Marius, Okkert [ZA/ZA]; 12 Hermon Street, 7550 Durbanville (ZA). MULLER, Frank, Robert [ZA/ZA]; 9 Spreu Street, 6529 George (ZA).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: VALVE UNIT



(57) Abstract: The invention discloses a valve unit including a dispenser inlet (30,32) and a dispenser outlet (34). A metering chamber (40, 24) having a predetermined volume and two chamber openings (42, 42) is movably located inside the dispenser in a manner allowing at least one of the chamber openings to be moved between a first position where it is aligned with the dispenser inlet (32) and a second position where it is aligned with the dispenser outlet (43). Furthermore, a control member (26) is movably located inside the metering chamber between the chamber openings and is adapted to selectively close off the dispenser outlet.

WO 03/060435 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB03/00026

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: G01F 11/16, 11/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: G01F-011/ or B65D-083/ OR B65D-047/ or A47K-005/ or F16K-021/ and

(PASSAG+ or CONDUIT? or BORE? or HOLLOW? or CHANNEL? or VIA? or DUCT?) and (ROTAT+ or MOV+ or PIVOT+ or TURN+ or TWIST+) and

(ALIGN+ or PARALLEL or COINCIDENT or CONNECT+ or JOIN+ or MEET+ or CONCURRENT or IN LINE)

and (STOP+ or BALL or CONTROL+ or FILL+ or SPHERE or LIMIT+) and

(DISPENS+ or METER+ or MEASUR+ or GAUG+ or AMOUNT or DOS+)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/51923 A (DEPRAT) 8 September 2000 See abstract.	35
X	FR 2 476 306 A (PERREAU) 21 August 1981 See figures.	1,8-12,14- 16,33-36
X	GB 2 025 379 A (MAGSAYSAY et al) 23 January 1980 See figures and pg 1 lines 110-117.	1-41

☒ Further documents are listed in the continuation of Box C☒ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
24 February 2003Date of mailing of the international search report
27 FEB 2003

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaustalia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

SUSAN T. PRING

Telephone No : (02) 6283 2210

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB03/00026

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 825 422 A (KELLER) 25 February 1998 See figures.	1-17,33-41
X	FR 2 589 235 A (OGIER) 30 April 1987 See figures.	35
A	US 4 181 246 A (NORRIS) 1 January 1980	

INTERNATIONAL SEARCH REPORT

International application No.

Information on patent family members

PCT/IB03/00026

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member		
WO 00/51923	DE 60 000 784	FR 2 790 532	EP 1 165 413
FR 2 476 306	NONE		
GB 2 025 379	NONE		
EP 825 422	NONE		
FR 2589 235	NONE		
US 4 181 246	NONE		
			END OF ANNEX